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Research on the Impact of the General Education Program at a State College

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BACKGROUND

In a sense, this brief report more nearly describes a pregnancy than a research project, because the baby is still on the way. Before describing what I hope will be an interesting proposal, however, I think a little information about Sacramento State College might be in order.

Sacramento State is one of the members of the California State College system. It is situated in an urban environment and has, at this time, about 6,000 students, 4000 of whom are regular, full-time matriculants. Most of these students come from the immediate area around the college, although we have recently acquired some residence halls so, as you can see, we are essentially a non-resident institution. By and large, the student body scores quite "normally" on a widely used tests of aptitude and achievement; in many respects the youngsters seem to be rather typical of college students the country over.

Some of the things that I shall say about the effects of our program on these average young people may indicate that Sacramento State College is hardly an educational Valhalla. I want to make it clear that I am not implying criticism by my statements. We have, I think,

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tended to find out some rather unpleasant things about our curriculum, and it is to the eternal credit of our deans and our president that, instead of running away from the facts as they have turned up, they have recognized them and have vigorously supported efforts to do something about them.

Our research program, at least insofar as I am involved with it, has two parts: (1) Since 1953, a good deal of my time has been spent in supervising what might be loosely described as student taxonomic studies. These are annual or bi-annual compilations of student characteristics--general or stratified according to certain variates. These studies have proved to be valuable in describing for us the kind of students that we have, and I think have been particularly worthwhile in enabling us to identify drops in the level of talents of students from certain feeder institutions. While this type of study is useful in maintaining an institution and maintaining a level of talent, it is not what I came to talk about here. I am more interested in reporting to you a string of developments that grew out of some curricular research that was started back in 1956.

(2) We have more recently become concerned with curriculum in several areas. What I have to talk about today is mainly an outgrowth of certain studies of our general education program. I won't say very much about our program, partly because there isn't much to be said for it, apparently, but I think that you should know that up until very recently it has been a 45 unit lock-step program which required the freshman to proceed undeviatingly through it, taking every one of the 45 units that were offered, and permitting almost no exceptions or substitutions.

This program was hammered out in the formative years of the institution which is now only about 13 years old, and was greeted with a great deal of enthusiasm; it was felt that it was the be-all and end-all of general education projects when it was formally adopted in 1953. Since that time, the character of the faculty and the character of the college has drastically changed. We have gone from a small institution of one thousand students to one that, as I say, now has 4,000 people; our faculty has tripled in size since that time, so that the initial character has changed and the original identity with the program has tended to evaporate.

Our maiden evaluative attempt, then, grew from a recognition of the fact that changes had taken place, and we designed two different kinds of studies: (a) one set of studies, longitudinal in character, saw us modify our entrance testing battery to include tests of achievement in the major subject matter fields which are encompassed by the general education program. After a two year period when the program had been negotiated, we would re-examine our native freshman who were then sophomores or juniors, to ascertain what if any changes had taken place in mastery of subject matter areas. (b) Along with this longitudinal work we were carrying out comparative studies of native students with transfer students, since the bulk of our students transfer in from junior colleges.

I think I am summarizing a great deal by saying that our first longitudinal study failed to reveal any substantial growth in achievement for our native students--not a revolutionary finding, but one that was

rather disappointing to us. The comparative studies failed to record any differences favoring our program over the one offered by junior college transfers, which was, on the whole, much more conservative than ours turned out to be. However, there was one side effect which has captured us; in the curricular evaluation project--the longitudinal study--we discovered that an extremely high proportion of our new freshmen were not around at the end of two years. Our fall-out rate fluctuated generally between 60 and 80 per cent for the two year period. We knew that we were losing students, but we weren't aware of the fact that we were losing that many.

This discovery triggered a series of data collecting enterprises in which we tried to find out what, if anything, we had in the files that might account for these facts. While some of the drop-outs were for manifest academic reasons, many more of the students had not been disqualified and were quite eligible to return to the institution; of the non-returnees some were either as good as, or better than those who were remaining; and there was one part of the group who seemed to be clearly superior to the students who were continuing on with us. We had no good idea as to why people were not coming back; we knew that they weren't, and we knew that some of the ones who were not were good students.

Consequently we decided to study and follow up intensively all members of the freshman class which entered in September of 1958. This we did through a simple recapitulation of data in the case of people

who were disqualified, and personal follow-ups on everyone who left without an academic cloud being over him. We discovered that those in the class of' '58 who left voluntarily were intellectually somewhat superior to the group remaining in good standing and continuing in residence. As a result of this, we have continued this study of the '58 group, and we have started a study of the 1959 freshman entering class, using a modified battery of entrance examinations to include some measures of non-cognitive or non-intellectual qualities.

The 1959 and '58 studies have convinced us fairly well that the college seems to be exercising its greatest holding power over the students who are, in the aggregate, resistant to the kinds of changes sought for in the general education program. Clinically speaking, the people who remain tend to be narrowly centered on vocational goals; they tend to have value profiles which suggest rigid personality organization; and their beliefs are inclined to be much more conservative than the ones who leave the institution in good standing. It is almost as if the college is holding the students who are most immune to its lower division program. (In this connection somebody said, "Maybe you are operating a state hospital there rather than an education institution." There is more than a little to be said for the anology; the people who don't get better or can't be made to get better stick around.)

Our personal follow-up contacts with the students--direct contacts--have tended to reveal what we feel is a massive uncommittedness on the part of the good students who leave. They accept the institution

and its programs and its objectives, but they have never become identified with them.

Now this is a matter for concern, as you can well imagine. And as a result of these fall-out findings, a number of faculty have become engaged with the over-all question of retention, and feel that if the program were more effectively to reach out and actually touch the students, then it might have the effect of holding more of them. The faculty who have been concerned have been joined and strongly supported by various administrative officials in the college. After several conversations between faculty, administrators, and my testing people who are primarily concerned with the collection of data, we have developed a plan for an experiment in curriculum which hopefully will go into effect in the fall of 1961.

THE RESEARCH DESIGN

I will detail the major features of this experiment for you very briefly. I think that it will be quite apparent what we are attempting to do. We are going to try to create a situation in which we can engage students in the objectives and the intent of our general education program which, as it now stands, is just another general education program. Our procedure will be something like this:

For the next year we will be working with faculty members who have indicated their desire to participate in this program. They are teachers who routinely offer courses in our general education program in the areas of psychology, social science, mathematics, English and health;

this is virtually the complete first semester freshman program. These people will be supplemented in thesecond semester by individuals in the area of life science and history who have some responsibilities in the second semester freshman program. We will be working with the faculty in trying to determine how to engage students and develop heightened interest and participation in the subject matters with which they are concerned.

Our experimental design insofar as the students are concerned involves the 250 students who will enter in the fall of 1961 as undeclared majors; we are choosing undeclared majors because they are representatives of the entire freshman class in terms of sex, drop-out rate, level of ability, and achievement. We will randomly divide this group of 250 people into two smaller groups of 90 and 160 students each. One will be a control group, and the individuals in it will be allowed to pursue their own ways in completing their freshman year. They will not be given any special consideration, they will not be assigned to any special sections; they'll simply sign up for and attend their courses as if nobody had ever done any research at Sacramento State College.

The other 90 students will be randomly subdivided into three smaller experimental groups. Each one of these groups will become a unit, and each one of these units will take the same courses from the same instructors at the same times. Their instructors will be the instructors with whom we have worked for the next year. The students will be held together for all of their classes, and the intent here will be to try to relate, as much as possible, the material in each course that is current

and meaningful. In another clinical analogy, what we are attempting here is "total push therapy" to accomplish certain kinds of educational objectives with freshman students. Our major goal will be to achieve an integrated student-centered approach to the content of the courses. And in doing this we will be using some of our best and most effective instructors and trying to train them in advance.

The major problem, of course, is one of evaluation.

The 250 undeclared majors available for the experiment constitute four separate groups--three groups of 30 experimental subjects each and a control group of 160 undeclared major students who will pursue their higher education along considerably more traditional lines. These groups may be identified as:

Experimental Group 1	(X1)	N= 30
" "	2	(X2) N=30
" "	3	(X3) N=30
Control Group	(C)	N=160

The existing freshman entrance test battery, which now includes the School and College Ability Test, The Sequential Tests of Educational Progress in Writing and an additional STEP test randomly given, Part A (Mechanics of Expression) of the Cooperative English Test, the Allport-Vernon-Lindzey Study of Values and the Michigan State College Inventory of Beliefs, will be modified to include Michigan State University's tests in critical thinking and selected scales of the Omnibus Personality Inventory, developed at the Center for the Study of Higher Education at

the University of California. These questionnaires are to be given at the regular summer 1961 testing dates and will be re-administered to all experimental and control subjects during the last week of classes of the second semester. Changes in aggregate test performance would be studied by utilizing the design represented below.

GROUP	TEST SCORE	
	(1) Pre-Experiment	(2) Post-Experiment
GROUP X1	$\bar{X}_{11}$	$\bar{X}_{12}$
GROUP X2	$\bar{X}_{21}$	$\bar{X}_{22}$
GROUP X3	$\bar{X}_{31}$	$\bar{X}_{32}$
GROUP C	$\bar{X}_{C1}$	$\bar{X}_{C2}$

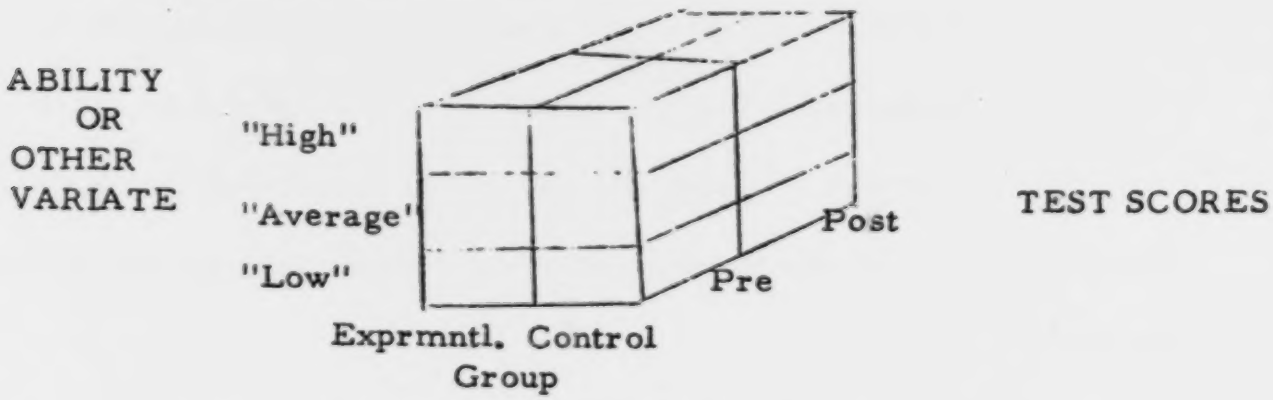
This design permits appraisal of temporal, group and interaction effects for continuous criterion variates. For appraisal of shifts in response on discrete variates like individual test items, the method developed by McNemar for evaluating correlated proportions would be employed.

In evaluating the results, it would be the expectation that changes would be greater in the direction of critical facility and would show greater growth in some attitude (e. g. "theoretical", "aesthetic") and personality (e. g. "liberalism") dimensions for the experimental groups than would be true for the control subjects.

In addition to changes in skills and characteristics evaluated through pre and post-testing, the actual scholastic performance of the Experimental and Control groups would be appraised through:

1. Statistical comparisons of the groups on course grades where common examinations are given to all sections;
2. Statistical comparisons of aggregate academic grade point averages earned in the groups;
3. Statistical comparisons of rates of failure, dropout, and other indices of mortality for the groups.

Also, the differential effects of the procedures would be studied by analyzing the various pre and post-experiment test scores in relation to a number of other qualities--level of ability, socio-economic background, sex, quality of previous academic work, etc. The type of analysis applicable here is sketched below.



This type of design will be most useful in assessing certain kinds of inter-action effects which may have considerable prescriptive importance in any curricular recommendations which might follow from the experiment.

If it appears that this procedure is effective in promoting better performance of the experimental subjects, it is possible that with the IBM registration procedures we can produce for all freshmen the type of situation which is being experimented with here for just a few. It should be quite possible to invent a registration scheme in which groups of students are kept together and one in which considerably more integrated effort goes into the preparation of the courses.